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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: VAPOR GROWN CARBON FIBER, AND PRODUCTION METHOD AND USE THEREOF

(57) Abstract: A vapor grown carbon fiber, each fiber filament of the carbonfiber having a branching degree of at least 0.15 occur-
rences/ μm and a bulk density of 0.025 g/cm³ or less and a producing method of the carbon fiber by spraying a raw material solution
containing a carbon source and a transition metallic compound into a reaction zone and subjecting the raw material solution to ther-
mal decomposition, which is characterized in (1) spraying the raw material solution at a spray angle of 3° to 30° and (2) feeding a
carrier gas through at least one site other than an inlet through which the raw material solution is sprayed, and a composite material
comprising the carbon fiber.

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A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 594 060 A (ALIG ROBERT L ET AL) 14 January 1997 (1997-01-14) the whole document	3,6,20, 22
X	US 2002/146562 A1 (INOUE HITOSHI ET AL) 10 October 2002 (2002-10-10) paragraphs '0032! - '35 44 47!; examples comp.1,comp.2; table 1	3,5,6
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- * & * document member of the same patent family

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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